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BUTTERFLIES OF MIDDLE AND SOUTHERN BAJA CALIFORNIA

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INTRODUCTION

SOUTHERN CALIFORNIA SURELY REPRESENTS ONE of the areas of the world most thoroughly investigated for butterflies. In contrast, a scant handful of collectors seem ever to have ventured south into the wilds of Baja. For this reason while I lived in Pasadena, California, in 1969 and 1970, I decided to look in that direction rather than facing the awesome competition of Southern California Lepidopterists in their native habitat.

The following list summarizes the records I made during this period. Little collecting was done north of the Valle de Trinidad, which crosses the entire peninsula of Baja at an altitude below 3200' about 100 miles south of the U.S. border. This valley is very arid except on the western edge. To the north of Valle de Trinidad, the Sierra Juarez rises to 5000' or 6000' more or less continuously all the way from San Diego County. To the south, the Sierra San Pedro Martir form a vast plateau (Figure 1), with extensive area between 8000' and 9500'. Consequently, if any line of demarcation could be defined between true Baja fauna and "blend region" with San Diego County, it would logically lie here.

All localities mentioned in this article may be located on the map, Figure 2. In the list, species with records from south of Valle de Trinidad previously published by Rindge [1948] are indicated by an "R." Records published from this portion of Baja California Norte by Powell [1958] are cited by "P(BCN)," and records specifically established by Patterson and Powell [1959] from the San Pedro Martir are cited by "P(SPM)."



Figure 1. Northern edge of the Sierra San Pedro Martir plateau as seen from west, above Meling Ranch. Photograph is taken around 3500', and top of plateau, about 8500', is 15 miles distant. The road serves the Observatorio Astronomico Nacional, operated by Mexican National University.

The Cary-Carnegie Expedition species of HesperIIDae reported by Miller [1970] are marked with "CC." MacNeill's [1962] species are denoted with an "M." Finally, Megathymidae records in Freeman's work [1968] are referred to by an "F." The following additional abbreviations are used in my list: BC = Baja California (state), BCS = Baja California Sur (territory), and SPM = Sierra San Pedro Martir.

Species numbers and names are as given by dos Passos [1964], except where since revised: *Philotes*, Langston [1969]; Melitaeinae, dos Passos [1969]; Theclinae, dos Passos [1970]; and Megathymidae, Freeman [1968].

It is really not within my aim here to give a detailed travelogue of the incidents and adventures which transpired during my visits to Baja. However, the prospective Baja traveler may find the following remarks informative: Most of the roads we passed required a vehicle with compound low gear, a skid plate to protect the oil pan, and high clearance. We were equipped with four-wheel drive (used very rarely except during a torrential rain in March 1970) an extra-heavy duty mechanical winch (used only to help others), and gasoline capacity for 400 miles. A good toolbox and a tire repair kit were found to be much more helpful than a second spare tire, as flat tires invariably occurred in odd numbers (i.e., 1, 3, or 5). The Automobile Club of Southern California guidebooks [1970, 1971] offer invaluable automotive advice to the Baja motorist. In traversing over 5000 miles of Baja dirt road, we never experienced a serious difficulty. Figure 3 shows a typical rural Baja road in normal state, and Figure 4 shows conditions during the flooding of March 1970. The rural Baja ranchers are overwhelmingly friendly when one leaves the beaten trails, especially if one knows even 100 words or so of Spanish. We spent many nights at some rancher's home with sleeping bags in front of a fireplace on a dirt floor or cot. The only real taboo in rural Baja is to pass someone in distress without offering assistance. I would especially like to mention the hospitality and friendliness of the remote and prosperous village of El Rosario, and the constant companionship of Carol Spence whose attraction for the frontier and the Old West led far indeed from the Los Angeles freeways.

In the future, Baja California collecting by others in the Sierra Victoria, the Sierra San Borja, and the Sierra San Pedro Martir would seem to me most intriguing. The Sierra Victoria are well watered, definitely subtropical, and very isolated from the Mexican Mainland tropics. April and October would likely be the best months; that is, when seasons change and both wet and dry season material might be on the wing. The Sierra San



Figure 2. Baja California and adjacent Mexican mainland. The Sierra Juarez external from Valle de Trinidad to the U. S. border, the Sierra San Pedro Martir from Valle de Trinidad to El Metate, the Sierra San Borja from Bahía de Los Angeles to the boundary of Baja California Sur, and the Sierra Victoria from San Pedro to Cabo San Lucas. Guadalupe Island is about 200 miles WSW of El Rosario in the Pacific Ocean.

Borja rise above 5000', and, because of its extreme isolation, seem never to have been visited by a Lepidopterist. When flying over, waterholes and local areas of very green vegetation may be seen, though. The San Pedro Martir Range has been fairly well explored from September to early June. As far as I know, though, July-August material, which summer rains might bring out, is totally unsampled.

LIST OF SPECIES

MEGATHYMIDAE

Agathymus comstocki (Harbison); 13-IX-70, Meling Ranch-Mike's Sky Ranch Rd. Jct., BC, 700'; F.

Agathymus dawsoni Harbison; 20-IX-70, 5 Mi. S. of Punta Prieta, BC; F.

10. *Agathymus stephensi* (Skinner); F.

HESPERIIDAE

Hesperinae

23. *Panoquina panoquinoides errans* (Skinner); R; P(BCN); CC; M.
 27. *Calpodus ethlius* (Stoll); 27-IX-70, La Paz, BCS; P(BCN); CC.
 29. *Lerodea eufala* (Edwards); 27-IX-70, 8 Mi. S. of San Pedro, Mex. 11, BCS, 1000'; 27-IX-70, 2 Mi. N. of San Pedro, Mex. 11, BCS, 500'; 13-IX-70, El Rosario, BC; 22-IX-70, San Ignacio, BCS, 900'; R; CC; M.
 30. *Lerodea arabus* (Edwards); R; CC [as *dysaules* Godman]; M [as *dysaules*].
 39. *Amblyscirtes tolteca* Scudder; 27-IX-70, 2 Mi. N. of San Pedro, Mex. 11, BCS, 500'; 29-IX-70, 30 Mi. S. of Todos Santos, BCS; R; CC.
 71. *Paratrytone melane* (Edwards); R; M.
 79. *Ochlodes sylvanoides* (Boisduval); P(BCN).
 80. *Ochlodes agricola* (Boisduval); 21-IV-70, 12 Mi. W. of Meling Ranch, SPM, BC, 1000'; 19-IV-70, 20 Mi. W. of Mike's Sky Ranch, SPM, BC, 1800'; P(BCN); M.
 87. *Atalopedes campestris* (Boisduval); 18-X-69, 12-IX-70, Meling Ranch, SPM, BC, 2000'; CC; M.
 91. *Polites sabuleti* (Boisduval); 18-X-69, Meling Ranch, SPM, BC, 2000'; 13-IX-70, 25-IV-70, El Rosario, BC; R; P(BCN); CC; M [as *margaretae* Miller and MacNeill].
 98. *Polites sonora* (Scudder); P(SPM).
 108. *Hesperia pahaska williamsi* Lindsey; P(SPM).
 122. *Hylephila phyleus* (Drury); 18-X-69, Meling Ranch, SPM, BC, 2000'; 27-IX-70, La Paz, BCS; 22-IX-70, San Ignacio, BCS, 900'; 24-IX-70, Mulege, BCS; R; CC; M.
 125. *Copaodes aurantiaca* (Hewiston); 27-IX-70, 10 Mi. S. of San Antonio, Mex. 11, BCS, 1500'; 19-IX-70, Bahia de Los Angeles, BC; 17-IX-70, Rancho El Metate, SPM, BC, 2000'; 22-IX-70, 4 Mi. E. of San Ignacio, BCS, 1100'; 22-IV-70, 20 Mi. W. of Rancho Rosarito, SPM, BC, 1900'; 19-IV-70, 9 Mi. W. of Mike's Sky Ranch, SPM, BC, 2800'; R; CC; M.
 139. *Nastra neamathla* (Skinner & Williams); CC.
Vorates decorus (Herrich-Schaeffer); R [doubtful, see M].
 Pyrginae
 148. *Pholisora catullus* (Fabricius); 27-IX-70, 2 Mi. N of San Pedro, BCS, 500'; 24-IX-70, Mulege, BCS; 22-IX-70, 4 Mi. E. of San Ignacio, BCS, 1100'; 29-IX-70, 8 Mi. N. of Cabo San Lucas, BCS; 19-IX-70, Bahia de Los Angeles, BC; P(BCN); M.
 150. *Pholisora libya* (Scudder); 18-IX-70, 70 Mi. N. of Rancho Chapala, BC, 2600'; 23-IX-70, 5 Mi. N. of Santa Rosalia, BCS; R; P(BCN).
 153. *Helioptetes domicella* (Erichson); R; CC; M.



Figure 3. A typical rural Baja California road. This track extends 50 miles from El Rosario to El Metate. The tall oddly-shaped plants are cirios (*Idria columnaris*). It is said perhaps the scenery here comes closest to an armchair traveler's picture of Baja—gentle hills, a green cast of cirio and cardon, and the quiet whisper of a primeval wilderness.

154. *Heliopetes ericetorum* (Boisduval); 19-IX-70, Bahia de Los Angeles, BC; 19-IV-70, 9 Mi. W. of Mike's Sky Ranch, SPM, BC, 2800'; 4-III-70, 20 Mi. E. of El Rosario, SPM, BC, 800'; P(BCN).
155. *Heliopetes laviana* (Hewiston); R; CC; M.
160. *Pyrgus scriptura* (Boisduval); 24-IV-70, Rancho El Metate, SPM, BC, 2000'; P(SPM).
161. *Pyrgus communis* (Grote); 18-X-69, 12-IX-70, Meling Ranch, SPM, BC, 2000'; 13-IX-70, El Rosario, BC; 22-IX-70, San Ignacio, BCS, 900'; 22-IV-70, 20 Mi. W. of Rancho Rosarito, SPM, BC, 1900'; 19-IV-70, 9 Mi. W. of Mike's Sky Ranch, SPM, BC, 2800'; 30-V-70, Valledares, SPM, BC, 2500'; 4-III-70, 20 Mi. E. of El Rosario, SPM, BC, 800'; 7-II-70, K-90, Mex. 5, BC; 23-IV-70, Rancho Rosarito, SPM, BC; 25-IV-70 Rancho El Metate, SPM, BC, 2000'; R; P(BCN); CC; M.
162. *Pyrgus oileus philetas* Edwards; 27-IX-70, 8 Mi. S. of San Pedro, Mex. 11, BCS, 1000'; R; CC; M.
164. *Erynnis brizo lacustra* (Wright); P(SPM).
166. *Erynnis afranius* (Lintner); P(SPM).
168. *Erynnis funeralis* (Scudder and Burgess); 28-IX-70, 12 Mi. NW of San Jose del Cabo, BCS, 800'; 27-IX-70, La Paz, BCS; 19-IV-70, 9 Mi. W. of Mike's Sky Ranch, SPM, BC, 2800'; 8-II-70, 5 Mi. N. of Puertecitos, BC; 7-II-70, San Felipe, BC; 18-IV-70, 19 Mi. W. of Mike's Sky Ranch, SPM, BC, 3800'; 23-IV-70, Rancho Rosarito, SPM, BC, 2500'; 25-IV-70, 17-IX-70, Rancho El Metate, SPM, BC, 2000'; R; P(BCN); CC.
170. *Erynnis pacuvius callidus* (Grinnell); 20-V-69, Teacup Spr., SPM, BC, 8000'; 30-V-70, Valledares, SPM, BC, 2500'; 31-V-70, Santa Cruz, SPM, BC, 3200'; P(SPM).
172. *Erynnis tristis pattersoni* Burns; CC.
175. *Erynnis propertius* (Scudder and Burgess); 20-V-69, Teacup Spr., SPM, BC, 8000'; 24-V-69, W. of Corona Meadow, SPM, BC, 7000'; P(BCN).
178. *Chiomara asychis pelagica* (Weeks); 28-IX-70, 12 Mi. NW of San Jose del Cabo, BCS, 800'; 19-IX-70, Bahia de Los Angeles, BC; 24-IX-70, Mulege, BCS; 22-IX-70, San Ignacio, BCS, 900'; R; CC; M.
182. *Systasea pulverulenta* (Felder); R [doubtful, see M].
183. *Systasea evansi* (Bell); 22-IX-70, 4 Mi. E. of San Ignacio, BCS, 1100'; 22-IV-70, 20 Mi. W. of Rancho Rosarito, SPM, BC, 1900'; 21-IV-70, 12 Mi. W. of Meling Ranch, SPM, BC, 1000'; 19-IV-70, 9 Mi. W. of Mike's Sky Ranch, SPM, BC, 2800'; 1-III-70, 16 Mi. S. of Puertecitos, BC; 23-IV-70, Rancho Rosarito, SPM, BC, 2500'; 27-IX-70, 8 Mi. S. of San Pedro, Mex. 11, BCS, 1000'; P(BCN); CC; M.
187. *Staphylus ceos* (Edwards); P(SPM); CC.
193. *Cogia hippalus peninsularis* Miller and MacNeill; 28-IX-70, 12 Mi. NW of San Jose del Cabo, BCS, 800'; CC; M.
201. *Thorybes pylades* (Scudder); 20-V-69, Teacup Spr., SPM, BC, 8000'; 19-V-69, Jierba Buena, SPM, BC, 8000'; 24-V-69, W. of Corona Meadow, SPM, BC, 7000'; 31-V-70, Santa Cruz, SPM, BC, 3200'; P(SPM).
206. *Thorybes valeriana* (Plötz); CC.
217. *Urbanus proteus* (Linnaeus); R; CC; M.
218. *Urbanus dorantes* (Stoll); 28-IX-70, 12 Mi. NW of San Jose del Cabo, BCS, 800'; 27-IX-70, La Paz, BCS; 27-IX-70, 2 Mi. N. of San Pedro, Mex. 11, BCS, 500'; 29-IX-70, 7 Mi. E. of Cabo San Lucas, BCS; R; CC; M.
225. *Codatractus arizonensis* (Skinner); R [as *cyda* (Godman and Salvin), see M].
231. *Chioideis albofasciatus* (Hewiston); 28-IX-70, San Jose del Cabo, BCS; R; CC; M.
236. *Epargyreus clarus* (Cramer); P(SPM).



Figure 4. The main Peninsular Highway at Rancho Chapala during the torrential flooding of March 1970. Rain had not fallen here for the previous two years, and did not fall again for at least a year more. The nearby dry lakebed of Laguna Seca Chapala was overnight transformed from two miles of choking dust into a little ocean, complete with whitecaps.

PAPILIONIDAE

246. *Battus philenor* (Linnaeus); 28-IX-70, 12 Mi. NW of San Jose del Cabo, BCS, 800'; 28-IX-70, San Jose del Cabo, BCS; R.
248. *Papilio polyxenes* Fabricius; 27-IX-70, La Paz, BCS; 22-IX-70, 4 Mi. E. of San Ignacio, BCS, 1100'; R.
252. *Papilio zelicaon* Lucas; 19-IV-70, 20 Mi. W. of Mike's Sky Ranch, SPM, BC, 1800'.
256. *Papilio cresphontes* Cramer; 27-IX-70, La Paz, BCS; 27-IX-70, 2 Mi. N. of San Pedro, Mex. 11, BCS, 500'; R.
263. *Papilio rutulus* Lucas; 12-IX-70, 22-IV-70, Meling Ranch, SPM, BC, 2000'; 29-V-70, 9 Mi. W. of Mike's Sky Ranch, SPM, BC, 2800'; 30-V-70, Santa Cruz, SPM, BC, 3200'; P(BCN).
265. *Papilio eurymedon* Lucas; 19-V-70, 9 Mi. W. of Mike's Sky Ranch, SPM, BC, 2800'; 19-IV-70, 20 Mi. W. of Mike's Sky Ranch, SPM, BC, 1800'; 31-V-70, 5 Mi. W. of Santa Cruz, SPM, BC, 3000'; P(BCN).

PIERIDAE

275. *Pieris beckerii* Edwards; 26-XII-69, El Porvenir, El Rosario, BC; 13-IX-70, El Rosario, BC; 3-III-70, 10 Mi. S. of Rancho Santa Ynez, BC, 2100'; 24-IV-70, 17 Mi. NE of El Rosario, SPM, BC, 1100'; R; P(BCN).
276. *Pieris sisymbrii* Boisduval; 20-IV-70, 12 Mi. E. of Meling Ranch, SPM, BC, 4600'; 19-IV-70, Mike's Sky Ranch, SPM, BC, 3800'; R; P(BCN).
277. *Pieris protodice* Boisduval and Le Conte; 26-XII-69, El Porvenir, El Rosario, BC; 25-IV-70, Rancho El Metate, SPM, BC, 2000'; 18-X-69, K-210, Mex. 1, BC, 400'; 18-X-69, Meling Ranch, SPM, BC, 2000'; 27-IX-70, La Paz, BCS; 8-II-70, 5 Mi. N. of Puertecitos, BC; 24-IX-70, Mulege, BCS; 30-V-70, Valledares, SPM, BC, 2500'; 25-IV-70, El Rosario, BC; 22-IV-70, 20 Mi. W. of Rancho Rosarito, SPM, BC, 2100'; 7-II-70, 28-II-70, San Felipe, BC, 7-II-70, K-90, Mex. 5, BC; R.
280. *Pieris rapae* (Linnaeus); 18-X-69, K-210, Mex. 1, BC, 400'; 25-XII-69, Camalu, BC; 12-IX-70, Meling Ranch, SPM, BC, 2000'; 31-V-70, Santa Cruz, SPM, BC, 3200'; P(BCN).
281. *Ascia monuste* (Linnaeus); 19-IX-70, Bahia de Los Angeles, BC; 27-IX-70, La Paz, BCS; 24-IX-70, Mulege, BCS; 21-IX-70, 35 Mi. N. of San Ignacio, BCS, 800'; R.
Ascia sevata kuschei (Schaus); R.
286. *Colias eurytheme* Boisduval; 23-V-69, Corona Meadow, SPM, 8000'; 24-IV-70, 17 Mi. NE of El Rosario, BC, 1100'; 31-V-70, Santa Cruz, SPM, BC, 3200'; 7-II-70, San Felipe, BC; 8-II-70, 17 Mi. N. of Puertecitos, BC; 1-III-70, 8-II-70, 9 Mi. S. of Puertecitos, BC; 26-IX-70, K-175, Mex. 1, BCS; 26-IX-70, K-220, Mex. 1, BCS; 30-V-70, Valledares, SPM, BC, 2000'; 3-III-70, 10 Mi. S. of Rancho Santa Ynez, BC, 2100'; P(BCN).
289. *Colias harfordii* H. Edwards; 12-IX-70, Corona Meadow, SPM, BC, 8000'; 31-V-70, 5 Mi. W. of Santa Cruz, SPM, BC, 3000'; 29-V-70, 19-IV-70, 9 Mi. W. of Mike's Sky Ranch, SPM, BC, 2800'; 23-IV-70, Rancho San Miguel, Rancho Rosarito, SPM, BC, 2900'; 19-IV-70, Mike's Sky Ranch, SPM, BC, 3800'; P(SPM).
298. *Colias eurydice* Boisduval; 30-V-70, Valledares, SPM, BCS, 2500'; 20-IV-70, 12 Mi. E. of Meling Ranch, SPM, BC, 4600'; 31-V-70, 5 Mi. W. of Santa Cruz, SPM, BC, 3000'; P(BCN).
299. *Colias caesona* (Stoll); 17-IX-70, Rancho El Metate, SPM, BC, 2000'; 31-V-70, 5 Mi. W. of Santa Cruz, SPM, BC, 3000'; 1-III-70, 9 Mi. S. of Puertecitos, BC; R.

300. *Anteos clorinde* (Godart); 27-IX-70, 8 Mi. S. of San Pedro, Mex. 11, BCS, 1000'; R.
301. *Anteos maerula* (Fabricius); 28-IX-70, 12 Mi. NW of San Jose del Cabo, BCS, 800'; R.
302. *Phoebis senna eubule* (Linnaeus); 28-IX-70, 12 Mi. NW of San Jose del Cabo, BCS, 800'; 17-IX-70, Rancho El Metate, SPM, BC, 2000'; 21-IX-70, 13 Mi. N. of San Ignacio, BCS, 1000'; R.
305. *Phoebis agarithe* (Boisduval); 19-IX-70, Bahia de Los Angeles, BC; 23-IX-70, 5 Mi. N. of Santa Rosalia, BCS; 21-IX-70, 13 Mi. N. of San Ignacio, BCS, 1000'; R.
310. *Eurema दौरa* (Godart); 29-IX-70, 7 Mi. E. of Cabo San Lucas, BCS; R.
311. *Eurema boisduvaliana* Felder and Felder; 27-IX-70, 8 Mi. S. of San Pedro, Mex. 11, BCS, 1000'; R.
312. *Eurema mexicana* (Boisduval); 28-IX-70, 12 Mi. NW of San Jose del Cabo, BCS, 800'; R.
314. *Eurema proterpia* (Fabricius); 27-IX-70, 8 Mi. S. of San Pedro, Mex. 11, BCS, 1000'; R [as *gundlachia* (Poey)].
315. *Eurema lisa* Boisduval and Le Conte; 27-IX-70, 8 Mi. S. of San Pedro, Mex. 11, BCS, 1000'; 25-IX-70, Airstrip at S. end of Bahia Concepcion, BCS; 24-IX-70, Mulege, BCS; R.
316. *Eurema nise* (Cramer); 27-IX-70, 8 Mi. S. of San Pedro, Mex. 11, BCS, 1000'; R.
319. *Eurema nicippe* (Cramer); 19-IV-70, 9 Mi. W. of Mike's Sky Ranch, SPM, BC, 2800'; R.
Eurema jacunda (Boisduval and Le Conte); R.
320. *Nathalis iole* Boisduval; 28-IX-70, 12 Mi. NW of San Jose del Cabo, BCS, 800'; 30-V-70, Valledares, SPM, BC, 2000'; 23-IV-70, Rancho Rosarito, SPM, BC, 2500'; R; P(BCN).
321. *Anthocharis cethura deserti* Wright; R; P(BCN).
324. *Anthocharis sara* Lucas; 22-IV-70, 14 Mi. W. of Rancho Rosarito, SPM, BC, 5300'; 19-IV-70, 9 Mi. W. of Mike's Sky Ranch, SPM, BC, 2800'; 3-III-70, 10 Mi. S. of Rancho Santa Ynez, BC, 2100'; 4-III-70, 20 Mi. E. of El Rosario, BC, 800'; 23-IV-70, Rancho San Miguel, Rancho Rosarito, SPM, BC, 2900'; 23-IV-70, 11 Mi. W. of Rancho Rosarito, SPM, BC, 2300'; R; P(BCN).
326. *Anthocharis lanceolata australis* (Grinnell); 24-V-69, W. of Corona Meadow, SPM, 7000'; 20-IV-70, 12 Mi. E. of Meling Ranch, SPM, BC, 4600'; 19-IV-70, Mike's Sky Ranch, SPM, BC, 3800'; P(BCN).
328. *Euchloe ausonides* (Lucas); P(BCN).

RIODINIDAE

334. *Apodemia mormo maxima* (Weeks); 24-IX-70, Mulege, BCS; R.
334. *Apodemia mormo dialeuca* Opler and Powell, 24-V-69, W. of Corona Meadow, SPM, BC, 7000'; 22-IV-70, Rancho El Cipres, SPM, BC, 1800'; 20-IV-70, 6 Mi. E. of Meling Ranch, SPM, BC, 2800'; 19-IV-70, Meling Ranch, SPM, BC, 2000'; 19-IV-70, 9 Mi. W. of Mike's Sky Ranch, SPM, BC, 2800'; 19-IV-70, 20 Mi. W. of Mike's Sky Ranch, SPM, BC, 1800'; 4-III-70, 20 Mi. E. of El Rosario, SPM, BC, 800'; 3-III-70, 10 Mi. S. of Rancho Santa Ynez, BC, 2100'; 31-V-70, 5 Mi. W. of Santa Cruz, SPM, BC, 3000'; 23-IV-70, Rancho Rosarito, SPM, BC, 2500'; P(BCN) [as *virgulti* (Behr)].
335. *Apodemia palmerii* (Edwards); 28-IX-70, 12 Mi. NW of San Jose del Cabo, BCS, 800'; 27-IX-70, 2 Mi. N. of San Pedro, Mex. 11, BCS, 500'; 19-IX-70, Bahia de Los Angeles, BC; 29-IX-70, 20 Mi. N. of Cabo San Lucas, BCS; R.
344. *Lephelisca nemesis* (Edwards); R; P(BCN).

346. *Lephelisca wrighti* (Holland); 29-V-70, 9 Mi. W. of Mike's Sky Ranch, SPM, BC, 2800'; 30-V-70, Valledares, SPM, BC, 2500'; 21-IV-70, 12 Mi. W. of Meling Ranch, SPM, BC, 1000'; 4-III-70, 20 Mi. E. of El Rosario, BC, 800'; 31-V-70, 5 Mi. W. of Santa Cruz, SPM, BC, 3000'; 8-II-70, 5 Mi. N. of Puertecitos, BC.
Melanis acroleuca (Felder); 28-IX-70, 12 Mi. NW of San Jose del Cabo, BCS, 800'; R.

LYCAENIDAE

Theclinae

351. *Chlorostymon simaethis* (Drury); R.
 360. *Satyrium saepium* (Boisduval); P(BCN).
 374. *Ministrymon leda* (Edwards); 19-IX-70, Bahia de Los Angeles, BC; 18-IX-70, Rancho Santa Ynez, BC, 2000'; 17-IX-70, Rancho El Metate, SPM, BC, 2000'; 18-IX-70, 6 Mi. W. of Mission Calamjue, BC, 1800'; 27-IX-70, La Paz, BCS; 22-IX-70, San Ignacio, BCS, 900'; R.
 386. *Incisalia iroides* (Boisduval); 24-V-69, W. of Corona Meadow, SPM, BC, 7000'; 22-IV-70, 2 Mi. W. of Rancho El Cipres, SPM, BC, 1800'; 20-IV-70, 14 Mi. E. of Meling Ranch, SPM, BC, 5300'; 19-IV-70, 9 Mi. W. of Mike's Sky Ranch, SPM, BC, 2800'; P(BCN).
 392. *Mitoura loki* (Skinner); P(BCN).
 395. *Mitoura spinetorum* (Hewiston); P(SPM).
 397. *Mitoura nelsoni* (Boisduval); P(BCN).
 401. *Callophrys dumetorum perplexa* Barnes and Benjamin; 20-IV-70, 12 Mi. E. of Meling Ranch, SPM, BC, 4600'; 19-IV-70, 9 Mi. W. of Mike's Sky Ranch, SPM, BC, 2800'; 31-V-70, 5 Mi. W. of Santa Cruz, SPM, BC, 3000'; 18-IV-70, 19 Mi. W. of Mike's Sky Ranch, SPM, BC, 1800'.
 408. *Atlides halesus* (Cramer); 18-IX-70, 17 Mi. N. of Rancho Chapala, BC, 2600'; 17-IX-70, Rancho El Metate, SPM, BC, 2000'; R; P(BCN).
 413. *Hypostrymon critola festata* (Weeks); 27-IX-70, La Paz, BCS; 29-IX-70, 20 Mi. N. of Cabo San Lucas, BCS; R.
 417. *Strymon melinus* Hübner; 18-IX-70, 17 Mi. N. of Rancho Chapala, BC, 2600'; 13-IX-70, 25-IV-70, El Rosario, BC; 1-III-70, 8-II-70, Puertecitos, BC; 1-III-70, 16 Mi. S. of Puertecitos, BC; 18-IV-70, 19 Mi. W. of Mike's Sky Ranch, SPM, BC, 1800'; R.
 422. *Strymon columella* (Fabricius); 1-III-70, 16 Mi. S. of Puertecitos, BC; R; P(BCN).

Lycaeninae

431. *Lycaena gorgon* (Boisduval); P(SPM).
 435. *Lycaena xanthoides* (Boisduval); R.

Plebejinae

446. *Brephidium exilis* (Boisduval); 18-X-69, Meling Ranch, SPM, BC, 2000'; 26-IX-70, K-200, Mex. 1, BCS; 22-IX-70, 4 Mi. E. of San Ignacio, BCS, 1100'; 22-IV-70, Rancho El Cipres, SPM, BC, 1800'; 4-III-70, Los Coronados Is., BC; 8-II-70, Puertecitos, BC; 1-III-70, 16 Mi. S. of Puertecitos, BC; 2-III-70, Mission Calamajue, BC, 3-III-70, 10 Mi. S. of Rancho Santa Ynez, BC, 2100'; 31-V-70, 5 Mi. W. of Santa Cruz, SPM, BC, 3000'; 25-IV-70, Rancho El Metate, SPM, BC, 2000'; R.
 448. *Leptotes cassius striata* (Edwards); [as marina, see PCBCN].
 449. *Leptotes marina* (Reakirt); 24-V-69, Corona Meadow, SPM, BC, 7000'; 26-XII-69, El Porvenir, El Rosario, BC; 29-IX-70, 20 Mi. N. of Cabo San Lucas, BCS; 29-V-70, 9 Mi. W. of Mike's Sky Ranch, SPM, BC, 2800'; 1-III-70, Puertecitos, BC; 8-II-70, 17 Mi. N. of Puertecitos, BC; 1-III-70, 16 Mi. S. of Puertecitos, BC; 25-IV-70, Rancho El Metate, SPM, BC, 2000'; R; P(BCN).

452. *Hemiargus ceraunus*; 28-IX-70, 12 Mi. NW of San Jose del Cabo, BCS, 800'; 29-IX-70, 8 Mi. N. of Cabo San Lucas, BCS; 26-IX-70, Mex. 1, K-175, BCS; 26-IX-70, Mex. 1, K-220, BCS; 30-V-70, Valledares, SPM, BC 2000'; 1-III-70, 8-II-70, Puertecitos, BC; 7-II-70, San Felipe, BC; 1-III-70, 16 Mi. S. of Puertecitos, BC; 25-IV-70, Rancho El Metate, SPM, BC, 2000'; R; P(BCN).
453. *Hemiargus isola* (Reakirt); P(BCN).
458. *Plebejus icarioides evius* (Boisduval); 24-V-69, W. of Corona Meadow, SPM, BC, 7000'; 19-V-69, Jierba Buena, SPM, BC, 8000'; P(SPM).
462. *Plebejus acmon* (Westwood and Hewiston); 19-IV-70, Mike's Sky Ranch, SPM, BC, 3800'; 23-IV-70, Rancho Rosarito, SPM, BC, 2500'; 19-IV-70, 9 Mi. W. of Mike's Sky Ranch, SPM, BC, 2800'; 20-IV-70, 12 Mi. E. of Meling Ranch, SPM, BC, 4600'; many additional SPM records; P(BCN).
470. *Everes amyntula* (Boisduval); 23-V-69, Corona Meadow, SPM, BC, 8000'; 29-V-70, 19-IV-70, 9 Mi. W. of Mike's Sky Ranch, SPM, BC, 2800'; 4-III-70, El Consuelo, BC; 19-IV-70, Mike's Sky Ranch, SPM, BC, 3800'; R; P(BCN).
471. *Philotes battoides bernardino* Barnes and McDunnough; 22-IV-70, 20 Mi. W. of Rancho Rosarito, SPM, BC, 1900'; 19-IV-70, 20 Mi. W. of Mike's Sky Ranch, SPM, BC, 1800'; 23-IV-70, Rancho Rosarito, SPM, BC, 2500'; many additional SPM records; R.
477. *Philotes sonorensis* (Felder and Felder); 22-IV-70, 27 Mi. W. of Rancho Rosarito, SPM, BC, 2000'; 20-IV-70, 14 Mi. E. of Meling Ranch, SPM, BC, 5300'; 3-III-70, 10 Mi. S. of Rancho Santa Ynez, BC, 2100'; 19-IV-70, Mike's Sky Ranch, SPM, BC, 3800'; P(BCN).
479. *Glaucopsyche lygdamus australis* Grinnell; 29-V-70, 19-IV-70, 9 Mi. W. of Mike's Sky Ranch, SPM, BC, 2800'; 20-IV-70, 12 Mi. E. of Meling Ranch, SPM, BC, 4600'; 4-III-70, 20 Mi. E. of El Rosario, SPM, BC, 800'; 3-III-70, 10 Mi. S. of Rancho Santa Ynez, BC, 2100'; 19-IV-70, Mike's Sky Ranch, SPM, BC, 3800'; P(SPM).
481. *Celastrina argiolus echo* (Edwards); 24-V-69, W. of Corona Meadow, SPM, BC, 7000'; 20-IV-70, 14 Mi. E. of Meling Ranch, SPM, BC, 5300'; R.

LIBYTHEIDAE

482. *Libytheana bachmanii* (Kirtland); 19-IX-70, Bahia de Los Angeles, BC; 23-IX-70, 5 Mi. N. of Santa Rosalia, BCS; R.

NYMPHALIDAE

486. *Anaea aidea* (Guérin); 28-IX-70, 12 Mi. NW of San Jose del Cabo, BCS, 800'; 25-IX-70, Airstrip at S. end of Bahia Concepcion, BCS; 24-IX-70, Mulege, BCS; R.
502. *Mestra amydone* (Ménétriés); R.
510. *Myscelia skinneri* Mengel; 27-IX-70, 2 Mi. N. of San Pedro, Mex. 11, BCS, 500'; 24-IX-70, Airstrip at S. end of Bahia Concepcion, BCS; 24-IX-70, Mulege, BCS; R [as *streckeri* (Skinner)].
520. *Limenitis lorquini* (Boisduval); 12-IX-70, Meling Ranch, SPM, BC, 2000'; P(BCN).
522. *Limenitis bredowii californica* (Butler); 30-V-70, 2 Mi. E. of Valledares, SPM, BC, 2500'; 29-V-70, 9 Mi. W. of Mike's Sky Ranch, SPM, BC, 2800'.
525. *Anartia jatrophae* (Johansson); 28-IX-70, 12 Mi. NW of San Jose del Cabo, BCS, 800'; R.
527. *Vanessa atalanta* (Linnaeus); 28-IX-70, 12 Mi. NW of San Jose del Cabo, BCS; 18-IV-70, 19 Mi. W. of Mike's Sky Ranch, SPM, BC, 1800'.

529. *Cynthia cardui* (Linnaeus); 25-XII-69, Camalu, BC; 14-III-70, Los Coronados Is., BC; 7-II-70, San Felipe, BC; R.
530. *Cynthia annabella* Field; 19-X-69, Meling Ranch, SPM, BC, 2000'.
531. *Precis coenia* (Hübner); 19-X-69, 12-IX-70, Meling Ranch, SPM, BC, 2000'; 30-V-70, Valladares, SPM, BC, 2000'; R; P(SPM).
551. *Chlosyne gabbii* (Behr); P(SPM).
562. *Chlosyne californica* (Wright); 22-IX-70, 4 Mi. E. of San Ignacio, BCS, 1100'; 19-IV-70, 9 Mi. W. of Mike's Sky Ranch, SPM, BC, 2800'; R.
563. *Phyciodes texana* (Edwards); 27-IX-70, 2 Mi. N. of San Pedro, Mex. 11, BCS, 500'; R.
574. *Thessalia leanira* (Felder and Felder); 31-V-70, 5 Mi. W. of Santa Cruz, SPM, BC, 3000'; 20-IV-70, 6 Mi. E. of Meling Ranch, SPM, BC, 2800'; 29-V-70, 19-IV-70, 9 Mi. W. of Mike's Sky Ranch, SPM, BC, 2800'; 19-IV-70, 20 Mi. W. of Mike's Sky Ranch, SPM, BC, 1800'.
579. *Dymasia chara* (Edwards); 27-IX-70, 10 Mi. S. of San Antonio, Mex. 11, BCS, 1500'; 27-IX-70, 2 Mi. N. of San Pedro, Mex. 11, BCS, 500'; 29-IX-70, 20 Mi. N. of Cabo San Lucas, BCS; 22-IX-70, 4 Mi. E. of San Ignacio, BCS, 1100'; 21-IX-70, 13 Mi. N. of San Ignacio, BCS, 1000'; 22-IV-70, 20 Mi. W. of Rancho Rosarito, SPM, BC, 1900'; 29-IX-70, 8 Mi. N. of Cabo San Lucas, BCS.
593. *Euphydryas chalcedona* (Doubleday); 20-IV-70, 6 Mi. E. of Meling Ranch, SPM, BC, 2800'; 29-V-70, 19-IV-70, 9 Mi. W. of Mike's Sky Ranch, SPM, BC, 2800'; 22-IV-70, 28 Mi. E. of Rancho Rosarito, SPM, BC, 2000'; 19-IV-70, 20 Mi. W. of Mike's Sky Ranch, SPM, BC, 1800'; 31-V-70, 5 Mi. W. of Santa Cruz, SPM, BC, 3000'.
593. *Euphydryas chalcedona quino* (Behr); 19-IV-70, 9 Mi. W. of Mike's Sky Ranch, SPM, BC, 2800'.
624. *Euptoieta claudia* (Cramer); 23-IX-70, 10 Mi. S. of Santa Rosalia, BCS.
625. *Euptoieta hegesia* (Cramer); 28-IX-70, 12 Mi. NW of San Jose del Cabo, BCS, 800'; 27-IX-70, 2 Mi. N. of San Pedro, Mex. 11, BCS, 500'; 24-IX-70, Mulege, BCS; 21-IX-70, 13 Mi. N. of San Ignacio, BCS, 1000'; R.

HELICONIIDAE

630. *Agraulis vanillae* (Linnaeus); 28-II-70, San Felipe, BC, 8-II-70, Puertecitos, BC; R.

DANAIDAE

633. *Danaus gilippus strigosus* (Bates); 30-V-70, Valladares, SPM, BC, 2000'; 8-II-70, Puertecitos, BC; 7-II-70, K-90, Mex. 5, BC; 1-III-70, 16 Mi. S. of Puertecitos, BC; R.

SATYRIDAE

658. *Cercyonis silvestris* (Edwards); P(BCN).

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